

REPLACED BY
ART 34 AMDT

CLAIMS

WO 03/062570

PCT/SE03/00074

14

1. A cylinder lock (1) and key (2) combination, comprising
 - a cylinder shell (140),
- 5 - a key plug (130) which is rotatably mounted in said shell,
 - a longitudinal key slot (100) extending along said key plug in parallel to the rotational axis thereof for receiving a key blade (200) having, at a side surface (201) thereof, a longitudinally extending coded surface (203),
- 10 - at least one locking tumbler assembly (110) having a body segment (113) with a contact portion (115) reaching into said key slot so as to engage with said coded surface (203) of a properly shaped key blade being inserted into said key slot, and
- 15 - at least one cavity (120) located at a transversal side of said key slot (100) in said key plug (130), said cavity accommodating an associated one of said at least one tumbler assembly and guiding the latter for elevational movement therein,
- 20 - said at least one locking tumbler assembly (110) comprising a pair of adjacent tumbler body segments (113, 114) accommodated in the same cavity, and
 - each tumbler body segment (113, 114) having an associated contact portion (115, 116) reaching into said key slot (100),
- 25 **characterised in that**
 - said adjacent tumbler body segments (113, 114) in said pair are elevationally movable independently of each other in said cavity so as to be individually displaced into respective elevational positions, and
 - said associated contact portions (115, 116) in said pair are axially separated in the longitudinal direction of the key plug such that these contact portions will be positioned at elevationally specific and generally different levels when

being engaged by said coded surface (203) upon insertion of said key blade (200) into said key slot (100).

2. A cylinder lock and key combination as defined in claim 1, wherein each segment in said pair of adjacent tumbler body segments (113, 114) is guided in a respective portion of said cavity (120).

3. A cylinder lock and key combination as defined in claim 2, wherein said pair of adjacent tumbler body segments (113, 114) have supplementary cross-sections, which together substantially correspond to the cross-section of said cavity (120).

4. A cylinder lock and key combination as defined in claim 3, wherein said adjacent tumbler body segments (113, 114) of said pair are partially defined by part-cylindrical surface portions being guided by wall portions defining said cavity (120).

20 5. A cylinder lock and key combination as defined in claim 3 or 4, wherein said adjacent tumbler body portions of said pair have mutually engaging surface portions (113a, 114a) being in sliding engagement with each other.

25 6. A cylinder lock and key combination as defined in claim 5, wherein said mutually engaging surface portions (113a, 114a) are substantially planar.

30 7. A cylinder lock and key combination as defined in any one of the preceding claims, wherein said key plug (130) contains a row of cavities (120), at least one of which accommodating a pair of adjacent tumbler body segments (113, 114).

8. A cylinder lock and key combination as defined in any one of the preceding claims, wherein said key plug (130) includes at least one locking tumbler assembly (113,114) on each transversal side of said key slot (100).

5

9. A cylinder lock and key combination as defined in any one of the preceding claims, wherein said pair of adjacent tumbler body segments (113, 114) cooperate with a side bar (150) being accommodated in a longitudinal recess (151) in said cylinder shell (140), said side bar (150) being adapted to normally lock the key plug against rotation in said shell and to be displacable into a releasing position upon insertion of a properly coded key blade (200) into said key slot (100).

10

15 10. A cylinder lock and key combination as defined in any one of the preceding claims, wherein said contact portions of said tumbler body segments (113,114) are constituted by outwardly projecting fingers (115,116).

20 11. A cylinder lock and key combination as defined in claim 10, wherein said fingers (115, 116) are positively guided in a longitudinally coded groove (202) in a side surface of said key blade upon insertion of the latter into said key slot.

25 12. A cylinder lock (1) having at least one pair of independently movable tumbler body segments (113,114) accommodated in a cavity (120) in a key plug (130) forming part of a cylinder lock in a lock and key combination as defined in any one of the preceding claims.

30 13. A key blade (200) having, at a side surface (201) thereof, a longitudinally extending coded surface (203) with at least one pair of neighbouring code surface portions (204, 205) located at elevationally specific and generally different

levels for co-operation with the respective contact portions of a pair of adjacent tumbler body segments of a lock as defined in claim 12.

14. A key blade as defined in claim 13, wherein said coded 5 surface (203) is formed by a side wall of a longitudinally extending groove (202) which positively guides said respective contact portions, constituted by outwardly projecting fingers, when the key blade is inserted into a lock.

15. A key blade as defined in claim 13 or 14, wherein said key 10 blade (200) is symmetrical with longitudinal coded surfaces on each side thereof.

16. A key blade as defined in any one of claims 13-15, wherein 15 said coded surface (203) comprises a longitudinal row of pairs (204, 205) of neighbouring code surface portions.

17. A key blank for producing a key blade as defined in any one of claims 13-16, comprising a longitudinal key blade with a code surface (203) formed at a side surface thereof, said 20 code surface having at least one material portion for cutting out a pair of neighbouring code surface portions (204, 205) for cooperation with the respective contact portions of a pair of adjacent tumbler segments in a lock as defined in claim 12.

25 18. A key blank as defined in claim 17, wherein the code surface 203 is undercut.